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# THE CORPS TACTICAL BATTLE IN NUCLEAR WAR 1958

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Chief of the Imperial General Staff*

THE WAR OFFICE,  
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**CONFIDENTIAL**

# THE CORPS TACTICAL BATTLE IN NUCLEAR WAR

								PAGE
	Foreword	..	..	..	..	..	..	iv
SECTION								
1.	Introduction	..	..	..	..	..	..	1
2.	Nuclear background	..	..	..	..	..	..	3
3.	Enemy tactics	..	..	..	..	..	..	5
4.	Defensive operations	..	..	..	..	..	..	7
5.	Counter-offensive operations	..	..	..	..	..	..	12
6.	Command and control	..	..	..	..	..	..	15
7.	Training	..	..	..	..	..	..	17
8.	Morale and discipline	..	..	..	..	..	..	17
9.	Conclusion	..	..	..	..	..	..	18



## FOREWORD

The time has now arrived when the quantity and quality of nuclear weapons becoming available on the battlefield impose a necessity for completely new tactical methods.

These are weapons of a new order, and minor adjustments in outlook are no longer sufficient. We shall not find the solutions to the problems of nuclear battle by adapting ideas which were successful in conventional war because we shall not experience those conditions again if nuclear weapons are used.

The reasons for issuing this pamphlet are twofold:—

**Firstly**, because it is necessary for all of us to study these problems from a broad common basis ;

**Secondly**, because such a study should give rise to constructive ideas which will assist in developing the best possible tactical doctrine on which to base our policy for the organization and equipment of the Army for nuclear war.

The doctrine put forward in this pamphlet contains fundamental changes in thought and in approach to battlefield dispositions. However it is neither desirable nor sensible to be dogmatic where tactics, particularly future tactics, are concerned. At this stage there still remains plenty of scope for the development of ideas. For instance, Section 5 dealing with the counter-offensive phase is in outline only and there is need for further study here. Additional consideration of such problems as tactical intelligence, including target acquisition, control of nuclear fire, warning systems, etc, is of first rate importance. It is therefore the intention that this pamphlet should stimulate further thought and discussion at all levels.

Experience gained by study periods and exercises designed to examine this doctrine will prove invaluable in ensuring that our thought is related to both contemporary and future trends. The result of such studies when laid before the War Office Committee for the Study and Formulation of Tactical Doctrine will be of the greatest assistance in overcoming any tendency to rigidity in outlook, and in developing ideas and techniques in step with scientific advances.

Concepts which thus emerge will be reflected by the future elaboration of this pamphlet which is now in its first edition and which is in loose-leaf form so that future doctrine can be incorporated without difficulty as time goes by.

## **THE CORPS TACTICAL BATTLE IN NUCLEAR WAR**

### **SECTION 1.—INTRODUCTION**

1. The purpose of this pamphlet is to establish a tactical doctrine on which the corps nuclear battle will be based. It aims at covering a situation which would arise should nuclear war occur within the next five years; but future trends in weapons and equipment beyond this time frame exert their influence on today's approach to the problem and must therefore be taken into account.
2. The geographical area of operations is not specified, and the frontages and depths envisaged are not related to a particular theatre.
3. It is assumed that the nuclear weapons to be employed are those in service now, ie, 280-mm gun, HONEST JOHN (free flight rocket) and CORPORAL, and the improved versions which will supersede them.
4. It will be clear from a study of this pamphlet that, in the nuclear battle, tactical mobility is essential for success both in attack and defence. This cannot be fully achieved until a substantial proportion of the infantry is mounted in armoured personnel carriers, or at least in cross country vehicles provided with thermal protection. Meanwhile the new tactical doctrine will be applied in so far as existing equipment permits.
5. The administrative implications and the logistic background required to support the tactical doctrine are not considered here. These problems are being examined and will form the subject of a separate pamphlet. It can, however, be stated now that forward troops will not in the future be able to depend on smooth running land lines of communication. The trend will be towards pre-stocking, reducing requirements and, in emergency, air supply to specific formations. Whilst it will not be possible for air supply totally to supersede land supply, it will be most undesirable that a brigade group should ever be forced to consider withdrawal on account of a threatened land line of communication.
6. In assessing assistance from Air Forces it must be remembered that during the early stages of battle, the role of the Tactical Air Force will be to support theatre air strike forces by nuclear and conventional attack and by reconnaissance. Their general ground targets will be the enemy's capability to fly or launch his nuclear weapons, and his ability to move his troops into or in the tactical battle area. This action will be of great indirect assistance to the fighting of the land battle. Additionally, so long as Tactical Air Force aircraft retain a capability to strike pin point or small moving ground targets they can, in emergency by the direction of the theatre commander, be diverted to tasks more directly in support of the corps battle.
7. When considering what effects the use of nuclear weapons will have on the various strata in the battle area, it becomes apparent that the higher the level of command up to corps, the greater is the change from previous thought and planning. There will inevitably be some changes in the life and work of the fighting soldier in contact with or in the neighbourhood of the enemy, but generally these will be of degree only. At higher level, however, the changes in tactical policy will be much



greater; not only because of the obvious need to adopt a greater dispersion of formations and units to minimise the effect of hostile nuclear missiles, and thereby to assume responsibility for much larger areas, but because in the future commanders will tend to plan their battles differently.

8. Defensive and offensive operations are considered at corps level since it is probable that the corps commander will be the most senior commander who will fight the tactical battle and who, in addition, will initially approve the nuclear fire plan.

9. Experience in nuclear matters is still very limited and restricted; consequently doctrine based on such brief experience may not always prove sound or lasting. Not only are techniques in the use of nuclear weapons untried but the weapons themselves are at present far from finalization and perfection. They are indeed in a state of early growth—and of constant and continual change in character. Each stage in their development tends to modify previous thought as to their tactical application.

10. In due course, evolution in weapons and equipment will almost certainly dictate new lines of thought on which to base tactical concepts. Therefore, further sections will be prepared from time to time to cover current thought and policy. They should be read in conjunction with such factual documents as may be issued so that training may be properly related to the capabilities and limitations of nuclear weapons.

11. No-one can say how many missiles will be available to a commander if and when war starts. For study purposes a tactical sufficiency should be assumed; that is to say, the minimum number which will enable a commander to plan his battle based on the use of nuclear weapons.

12. It can be assumed that during the next few years nuclear missiles will become increasingly plentiful and in doing so they will alter completely the previous tactical concepts. Although the use of the megaton weapon is a possibility, it is not considered in this pamphlet because it is unlikely to be used in the tactical battle by either side, although it may well be used in the interdiction programme.

13. It is not intended in this pamphlet to deal in detail with the problems and actions of individual arms in each phase of war, though the roles of some of them will be mentioned in subsequent paragraphs. Nor has the use of chemical or bacteriological warfare by our enemies or allies been considered.

14. It is not possible or desirable to include all the data about nuclear weapons, their systems and effects in a pamphlet of this nature, but it is important that officers should study the official pamphlets which are available or about to be issued. These include:—

*(a) Offensive aspects*

In the past for security reasons training, except in British Army of the Rhine, has been based on a hypothetical British family of nuclear weapons and yields. The decision has recently been made to base training on United States weapons and the North Atlantic Treaty Organization procedures and training family of missile yields. A War Office pamphlet is

due to be issued in the summer of 1958 to implement this decision. Pending its issue the following publications are still of value.

- (i) "Interim Instruction 2A on the Tactical Employment of Nuclear Weapons (Primarily for Use by Artillery Officers)" (War Office Code No. 9476).

This pamphlet issued on an all arms distribution (except in the British Army of the Rhine) is based on the British training family of weapons.

- (ii) United States Department of the Army Pamphlet 39-1 "Atomic Weapons Employment."

This pamphlet is issued throughout the British Army of the Rhine, and instruction at the Staff College and Royal Military College of Science is based on it. It is however obsolescent.

*(b) Defensive aspects*

- (i) "Precautions against Atomic Attack—1952". (War Office Code No. 8769). A junior ranks' guide to the effects of nuclear weapons issued throughout the British Army.

A revised edition is being issued during 1958.

- (ii) "The Nuclear Handbook for Staff Officers and Instructors" 1957 (War Office Code No. 9405).

Issued throughout the British Army. Designed for the use of staff officers and unit instructors.

**SECTION 2.—NUCLEAR BACKGROUND**

1. A sound knowledge and understanding of basic facts concerning the employment and effects of nuclear weapons is essential to all commanders and staff officers who may be required to plan a nuclear battle.

2. Where expert examination of a particular problem or a target analysis is required, this will be carried out by trained artillery staff officers at all levels. As well as a general knowledge of the capabilities and employment of the nuclear weapons, those involved in planning must appreciate the statistical effects of certain types of nuclear explosions under various conditions of ground and weather and against different types of targets. In addition, the relationship between the yield, the target, the range, the circular error of probability, the method of delivery with its response time and its reliability factor must be well understood, so that sound appreciations can be made.

3. From such knowledge three facts will emerge at once:—

- (a) The tremendous power which is now inherent in the weapons in current use within the corps, a power of a different order of magnitude from anything previously conceived.
- (b) The vulnerability of troops in the open compared to those who are fully protected—the casualties may be multiplied at least nine times for troops in the open.



- (c) The power of the nuclear weapon enables battle situations to alter radically and violent changes to occur in a very short space of time. These changes should make it possible to turn defence into attack and commanders must be prepared to take immediate advantage of such conditions.

4. The employment of nuclear weapons has increased the necessity for successful target acquisition. At present the methods used are limited in their capabilities. The development of drone equipment and other new devices could in due course provide much of the data required for selecting targets for nuclear strikes, particularly when used in conjunction with other means of obtaining information.

5. In selecting suitable targets for nuclear weapons, four factors must constantly be in the forefront of a commander's mind:—

(a) Target acquisition.

(b) Target analysis and response time—ie, the time taken from the acquisition of a target to the time of delivery of a missile on that target.

(c) The capability and reliability of the particular weapon or weapons and their systems.

(d) The time taken to warn all concerned.

6. Nuclear artillery will become the predominant arm on the battlefield with armour and infantry in support of it. In the past, commanders at corps and divisional level normally decided on their objective, assigned their forces in suitable degree to achieve their purpose and finally allotted the necessary fire and other support. In the future, planning will tend to be centred around the positioning of the nuclear missiles to achieve the aim. Nevertheless whilst the development of the ensuing tactical operations will be very largely linked to the nuclear plan, commanders must still give full consideration to the proper balance and capabilities of all arms. Nor must they ignore the limitations of the present family of nuclear weapons in response time, reliability and accuracy.

7. The introduction of nuclear weapons has affected the tactical significance of ground. Although its importance still lies chiefly in its value for observation and its effect on movement, the concept of occupying tactical ground or ground vital to the defence is no longer valid. The power of the nuclear weapon can destroy or neutralize any position however strong. In future it must be the aim to retain control of an area by offensive mobile operations.

8. Practical protection against a nuclear attack is threefold:—

(a) A dispersed lay-out.

(b) The digging in of all troops, and equipment where possible, together with thermal protection.

(c) Concealment, camouflage and deception.

9. Although the present concept envisages the use of mobile groups, it must not be thought that the importance of digging has diminished. It has, in fact, greatly increased owing to the power of the nuclear weapon against men in the open. But the digging which will take place is primarily for nuclear protection and not for the purpose of holding ground.

10. The importance of camouflage and deception is increased in the nuclear battle. If an enemy can be deceived into launching a nuclear attack on to a false position and then follows it up, the defence is well placed to take advantage of it. The deception policy must, however, be laid down by corps and form part of a concerted plan.

11. The importance of concealment and movement discipline in the lying-up areas cannot be over-emphasized, and this is particularly important in the case of nuclear weapons. In this connection the nature of areas offering suitable concealment has changed. Previously all units have tended to make use of woods or buildings. It should be remembered that these could prove to be unsuitable under nuclear bombardment. The former could inhibit vehicle movement due to fallen trees and, after hot dry periods, might be set on fire, whilst the latter could cause serious casualties from the secondary effects of the explosions. Avoidance of obvious locations, helpful ground configuration and cover which will not trap units in flames will provide the best aid to concealment.

12. Finally there is the all-important question of morale which it is impossible to assess except under conditions of actual battle. This is dealt with more fully in Section 8.

### SECTION 3.—ENEMY TACTICS

1. Before it is possible to make a sound tactical plan it is necessary to have a broad knowledge of the methods which a possible enemy is likely to employ. Detailed examination of information about his organization, equipment and method of training may disclose his possible weaknesses which can then be exploited to advantage. Furthermore a study of his actions in previous wars, and of his national characteristics, may serve as some form of guide in planning. Succeeding paragraphs of this section are intended to give some information as to the current trends in enemy organization, equipment and tactics.

#### Organization and equipment

2. Since World War II there has been a steady trend towards complete mechanization, and emphasis on the tank at the expense of the infantry. Of the four types of division eg, rifle, mechanized, tank and airborne, the rifle division is now unlikely to be used offensively except in remote theatres or only as Line of Communication troops. Mechanized and tank divisions are both armoured divisions as we understand the term, the main difference being the proportion of tanks and infantry.

3. In addition to the enemy nuclear potential being at least equal to our own, it must be assumed that he will have a very great preponderance of conventional armaments, both armoured fighting vehicles and artillery, as well as great numerical superiority. He is also likely to have a large air force for reconnaissance and close support of his ground forces. The primary targets of his ground attack aircraft will be our missile sites and units, our means of surface movement, headquarters and establishments of all types, troop and vehicle concentrations and gun areas. Provided that his facilities for operating conventional aircraft survive our nuclear air strikes, the greater number of aircraft available to him will allow of a much larger scale of conventional support using rockets and flame weapons in support of ground troops.



4. Training in the enemy army places great emphasis on offensive operations. His doctrine stresses five main themes:—

- (a) Offensive action and maintenance of momentum.
- (b) Surprise in speed, weight of attack and deception as to point of attack.
- (c) Mobility.
- (d) The supremacy of the tank and its use in mass built up in great depth.
- (e) Protection from nuclear attack by closing up to and intermingling with the enemy.

5. In general he envisages the assault formations being held dispersed in areas well back (up to 60 miles) until the last moment, and then moved forward under cover of darkness to arrive in the assault area in time to exploit a bombardment programme. Information about the move forward to the assault area is of primary importance if this type of attack is to be forestalled by our nuclear weapons. Although individual attacks may be well separated, there will probably not be great dispersion within formations and units, the frontages being much the same whether nuclear weapons are used or not.

6. The enemy expects to safeguard himself from nuclear retaliation by attack on our nuclear potential using surface weapons, air strikes and airborne troops. Concealment and protection of our nuclear launching sites, and means of deceiving the enemy as to their whereabouts is therefore essential. If our nuclear weapons can remain operative, the mass tactics of the enemy should provide excellent targets.

7. Subsequently the enemy hopes, by maintaining the momentum of his attack, to disrupt communications and overrun our nuclear sites. Our troops must therefore be sited and operate with the aim of slowing up the enemy advance and containing him long enough for a nuclear counter attack to be launched, supported by reserves.

8. His tactics for the passage of obstacles include initial crossings on a broad front to locate and define the defence, light opposition being brushed aside. Great emphasis is placed on the use of amphibious tanks and armoured personnel carriers so that the momentum is not lost while bridges or rafts are constructed. It is therefore important that the defence should possess the necessary mobility and striking power to engage and destroy the comparatively light enemy spearheads before their heavier weapons can reach them. At the same time it is equally important for the defence to strike at the enemy's obstacle crossing equipment and at the troops required to operate it whilst they are exposed.

### **Defensive operations**

9. Enemy defence tactics are at present based on a series of zones organized in depth, both frontages and depths having increased in recent years. Trench systems with overhead cover and deep dugouts are given great emphasis, though it is possible that a new more mobile method of defence on a river line is being developed. Although nuclear weapons may be expected to support the defence, there is no sign of a corresponding reduction in the present scale of conventional artillery support.

**Possible enemy weakness**

10. In general the enemy appears to have adapted his organization to a war with or without nuclear weapons. He has greatly increased his scale of mechanization and the resultant increased dependence of his administrative echelons on a road Line of Communication should present profitable targets for our nuclear weapons. His continued preference for massed attacks should also provide good targets.

**SECTION 4.—DEFENSIVE OPERATIONS****General**

1. The importance of an obstacle as an aid to defensive operations has always been considerable although it has frequently proved a broken reed when the defence has relied on it for total protection. An obstacle may be natural or artificial, or it may be a combination of the two. But whatever its character, its importance in the nuclear battle is probably greater than it has ever been before.

2. A major obstacle will inevitably inhibit the movement of an enemy in a certain area for a period of time, however short. It will certainly canalize his movement and may cause him to concertina. He will be forced to expose a valuable proportion of his troops during his passage of it. In addition, at some period or other in the battle it must divide his force. All these factors work strongly in favour of the devastating effects of nuclear missiles.

3. The enemy may be successful in places in getting his light tanks across a water obstacle since they are amphibious, and these may be supported by infantry in amphibious armoured personnel carriers or carried in helicopters. Although the number of amphibious tanks and infantry in armoured personnel carriers may be considerable, such forces will be at a disadvantage in operating against our armour which at that stage of the battle will have the advantage of superior armament. To compete on equal terms, the enemy must succeed in getting across his heavier, non-amphibious tanks. For the main armour to cross, rafts, ferries and some form of bridge must be erected by engineers working largely unprotected against nuclear explosion and subject to its widest effects. The enemy's problems here will be aggravated if the most likely points of egress can be denied by mining or possibly by the creation of swamp areas.

4. Where the obstacle is not a water obstacle, but is formed either by peculiar terrain, by demolitions, by extensive minefields, or by a combination of such factors, the opportunity may be artificially created for the defence to employ their nuclear weapons in a more strictly limited area. The strength of any obstacle should be increased by the use of minefields to canalize or disrupt the enemy movement. In sum, the corps defensive lay-out must be based on a major obstacle. It would be an advantage if this was supported in rear by one or more minor obstacles to assist in containing and sealing off enemy penetrations.



5. The need for dispersion and the necessity to depopulate the battle zone has greatly increased the frontage and depth of the corps area. Future deployment will show great differences from all previous thought. There will be no question of en cadre defence, nor of permanent static positions designed to withstand a prolonged major assault. Mutually supporting formations with interlocking fire plans will no longer be possible.

6. The power of nuclear weapons to annihilate any defensive position once it is discovered is such that protracted defence in a fully dug prepared position will not be possible in the future. Furthermore, such positions in a widely dispersed lay-out, even if they were not overwhelmed by nuclear fire, could easily be by-passed and would therefore have no influence on the battle.

7. The theme of the defensive battle will therefore run on these lines:—

(a) Based on a major natural or artificial obstacle, the defence will aim so to cripple the attacking forces on the obstacle line that they will be unable to develop their offensive. This aim will succeed if full advantage is taken of the power of nuclear missiles against unprotected troops, and if heavy destruction of the enemy's obstacle crossing potential, both in equipment and in technical troops, is achieved.

(b) However, should the enemy succeed in crossing in force and commence deeper penetrations, forward units will retain contact, delay him where possible, and attempt to define his flanks. Meanwhile, fresh infantry armour battle groups positioned in depth will seek to contain his forces within a known area.

(c) Then at the earliest opportunity a corps counter attack will be launched. This will consist of a nuclear strike exploited by armour from the corps reserve with the aim of regaining observation along the obstacle line.

(d) Throughout the operations the conduct of the battle will be based on mobile groups located in dispersed and concealed areas, acting offensively at the correct moments rather than relying on defence based on permanent occupied defended localities.

8. For this purpose infantry and armour will be continually grouped together, that is to say the infantry battalion—armoured squadron and in some cases the infantry company—armoured troop, will form part of permanent teams available at certain degrees of notice to carry out their offensive tasks.

9. It will be clear that in a dispersed lay-out some penetration may take place during the hours of darkness. This must be located and pinpointed by active patrolling. These patrols should be linked to conventional on call artillery fire and the enemy must be eradicated within a matter of hours so as to prevent a build-up taking place in any one area sufficient to threaten the defence.

### **The Battle Phases**

#### **Phase I. The delaying action on the enemy side of the obstacle.**

10. The extent to which a mobile covering force can be employed beyond the obstacle, and its composition, will depend on such factors

as the ground, the time in hand for the preparation of the main position, and the troops available. The purpose of this force will be to impose delay and where possible to define targets. It will contain engineers whose task will be to deny mobility to the enemy to the greatest possible extent within the time available. It will withdraw in the face of the enemy advance causing him successive delays and encouraging him, where possible, to concertina and thus to provide suitable targets for nuclear missiles. The composition of this force will vary with circumstances and with particular regard to the ground and to the delay to be imposed.

**Phase II. On the obstacle.**

11. The aim will be to inflict such crippling casualties on the enemy crossing the obstacle that he can no longer properly develop his plan on that part of the front.

12. To achieve the aim it will be necessary to prevent the enemy forces building up in sufficient strength to break out of any lodgement area and to remove such areas speedily in the early stages of their build-up. This will entail the positioning of a number of infantry armour battle groups at constant readiness for offensive action, operating either with gun-fired low yield nuclear shells or conventional fire support. These groups will be controlled by brigade group headquarters allotted to the sector and positioned in depth in a zone extending up to three to four miles from the obstacle.

13. To provide information on which to base such action, constant surveillance of the whole obstacle line must be achieved. By day this can be carried out by relatively few troops well placed, consisting chiefly of armoured cars, reconnaissance troops from armoured regiments, artillery and infantry observation posts and surveillance radars. By night or in conditions of poor visibility it will be necessary greatly to increase the infantry required for this purpose. Such infantry will operate from forward bases and be prepared to eliminate minor crossings as they occur. If a situation develops beyond their control, infantry armoured battle groups as mentioned above will be assigned to the task as rapidly as possible.

**Phase III. The stabilizing or containing phase.**

14. Should the enemy succeed in establishing a force sufficiently strong to overcome the obstacle defence zone and commence a powerful penetrating movement, then fresh forces positioned in depth five to ten miles from the obstacle will contain his movement. This they will do by establishing an anti-tank screen astride the enemy lines of advance on ground previously reconnoitred and making full use of existing obstacles.

15. While these containing forces are deploying from their concealed positions, it will be the task of the infantry armour groups from the obstacle defence zone, assisted by armoured cars, to retain contact with the enemy, delay his advances and above all contain the flanks of the salient.

16. The timing and movement of the containing forces is very delicate. If they move too late they will fail to contain the enemy, and if they move too soon and are discovered, they will be subjected to nuclear bombardment whilst in a highly vulnerable state. Improper or ill conceived movement on the nuclear battlefield is hazardous in the extreme.



17. The aim should be to move, probably by night when the enemy are reasonably near and above ground, to close with him and remain in close contact, thus denying him further penetration and containing him until such time as the corps counter attack can be launched.

18. The positioning of the brigade groups in the containing belt is not similar to the depth brigades of a division in the previous concepts of defence. Like the forward brigade groups in the obstacle defence zone they will be widely dispersed in infantry armour groups, and must be concealed and dug in for their own protection.

19. But although ground has lost much of its significance owing to the ease with which it can be neutralized by nuclear weapons or bypassed, these groups must take every advantage of positions which will afford observation, and which will assist them in the task of sealing off enemy penetration for a limited period.

20. Brigade groups allotted to this zone, in addition to having the containing battle as their primary role, also ensure that, in the event of an enemy nuclear saturation strike on the obstacle line, intact formations still exist to continue the battle and are available to operate against him as he follows up his nuclear bombardment.

#### **Phase IV. The corps counter stroke**

21. As soon as the enemy effort is sufficiently stabilized, the corps commander will launch his nuclear counter stroke, supported by his corps reserve which will probably consist of one or more armoured brigade groups. Although this attack will be based on the broad directive of the corps commander and supported by corps units, the detailed planning and the execution might devolve upon a divisional headquarters which has been kept out of battle for this purpose.

22. The attack will be based on a nuclear strike which will be followed by an armoured force supported by infantry in armoured personnel carriers, by engineers for route clearing and by monitoring teams. The axis of the attack may well come from a flank but this must depend on a contemporary appreciation. Their task will be to ensure that no enemy remain established on the near side of the obstacle.

23. A medium or high yield nuclear attack cannot be made against enemy troops in close contact with our covering forces and plans must be made to deal with enemy in the immediate neighbourhood of, or intermingled with, the containing forces as a subsidiary operation to the main counter stroke. Paragraphs 9 and 10 of Section 5 deal with this aspect.

24. The balance of forces allotted to the various phases must depend on the following considerations:—

- (a) The nature of the obstacle and the terrain in its neighbourhood.
- (b) The amount and type of forces, and nuclear support available to the commander.

25. Given a good obstacle, a sufficiency of accurate nuclear weapons and the necessary surveillance of the obstacle a commander may well decide that he can win the battle on the obstacle and therefore deploy the weight of his forces in that zone. Alternatively, he may decide that enemy penetration is virtually inevitable and therefore retain the bulk of his forces in depth for the containing battle.

26. The armoured brigade groups will normally be assigned to corps reserve, but a proportion may be located for use in the containing phase, or may even be positioned so that by their dispersed locations they can provide some security to the nuclear weapon sites.

Furthermore, it must be remembered that there may be a constant threat of airborne assault. Commanders at all levels must organize means of dealing with this contingency and at formation level the desirability of a proportional allocation of available armoured cars is stressed.

### **Fire power**

27. The fire power for the battle will consist of nuclear fire and conventional fire, these methods being complementary.

28. In Phase I the fire support will probably consist of disruptive fire tasks, mainly carried out by the CORPORAL regiment.

As the mobile forces withdraw and the ranges get shorter some additional support may come from the shorter range nuclear weapons, ie, the HONEST JOHN and the 280-mm, fired from forward positions. Closer in still the targets may come within the range of conventional medium artillery deployed well forward. The HONEST JOHN is more mobile than the 280-mm and, with its bigger yield, is a better area weapon. In Phase I, therefore, it is the more likely to be used in support of the mobile forces beyond the obstacle.

29. All these weapons can only be used effectively if information is available of enemy movement. In addition to armoured car patrols the use of special air service and agents will be most useful.

30. In Phases II and III all forms of fire power will be available and its application will be dictated by considerations of range and suitability. Both on the obstacle and in the dog-fight of the containing phase of the battle, conventional weapons will be used for the close support of the infantry and armour. On the obstacle itself variable Time fuzes should be particularly effective.

31. The nuclear artillery will primarily be used for counter bombardment and counter preparation in Phases II and III. In Phase III nuclear fire may also be needed to reduce the enemy pressure on the infantry and armour if the containment of the enemy looks like getting out of hand.

32. In Phase IV the fire effort will consist mainly of an all out nuclear offensive. Once the area has been defined and the main target centres decided, the problem will be for the technical staffs to estimate the quantity in yields required to achieve the aims.

33. In handling the shorter range nuclear weapons forethought will be needed in positioning them so that the greatest weight of fire can be brought to bear on the enemy penetration.

34. The corps defensive battle will be fought in conjunction with an army group interdiction programme. Such a programme, it is anticipated, will destroy the enemy rear formations or, at any rate, prevent them moving forward to the battle area and exploiting any local successes which may have been achieved. By this means it is hoped that,



although the corps may inevitably have a battle to fight in which it will be outnumbered, enemy reserves will be restricted or reinforcements will not be forthcoming. If the enemy preponderance of strength can be materially reduced astride the obstacle, then the defence will be well situated to ensure a successful outcome to the battle.

## **SECTION 5.—COUNTER-OFFENSIVE OPERATIONS**

1. The power of the nuclear weapon enables battle situations to alter very rapidly and it may be possible to assume the offensive at very short notice. To take advantage of this commanders must retain larger reserves than hitherto both in nuclear fire power and in formations.

### **Fire power**

2. Offensive action will be planned around the use of the nuclear weapon. Having decided what he wants to achieve, the commander will organize his nuclear fire plan to achieve his aim and will support this by means of infantry armour battle groups.

3. Prior to the offensive every effort will be made to dislocate the enemy's tactical nuclear potential. This requires first-class reconnaissance, target acquisition and subsequently an integrated fire plan by all means at the disposal of the commander. Means of obtaining the necessary information will consist of air reconnaissance and data produced by drones and other new methods as they become available, in addition to Special Air Services normal patrol activity, and shelling reports (Shelreps). Information concerning targets consisting of the headquarters which control nuclear equipment will prove particularly important. Electronic counter measures should if possible be initiated on his control systems.

4. In order to ensure that the speed and momentum of successful thrusts are maintained, it will eventually be preferable for forward commanders to order and control the firing of nuclear missiles. This requirement presents difficulties while the problem of the extent and degree of the flash effects of a nuclear explosion remains indeterminate.

### **Conduct of operations**

5. Offensive operations may have alternative aims depending on circumstances. They may either take the form of a large scale raid or mopping up operation with the purpose of destroying the enemy before withdrawing, or they may be launched to gain control of territory previously dominated by the enemy, possibly with a view to further operations. In the latter case it will be desirable to include a satisfactory obstacle within the limits of the advance if there is any risk of an enemy counter stroke.

6. These operations will not resemble previous attacks where large forces were assembled, but will appear more in the light of a reconnaissance in force on a broad front by a large number of mixed groups of armour and infantry, supported by self propelled artillery and with nuclear strikes available to deal with an enemy position when located. It will no longer be desirable or even possible to concentrate forward troops in mass on a narrow front for a limited breakthrough.

7. The attack following nuclear bombardment will have three aims:—

- (a) Overcoming the enemy's control headquarters and nuclear weapon sites.
- (b) Penetration to the limits of supportable depth together with the mopping up of peripheral survivors.
- (c) Reorganization behind a fresh obstacle or, alternatively, withdrawal to the original area.

8. The axis of the attack should not necessarily be directed into known gaps. These are likely to be pre-determined areas for the enemy nuclear counter attacks. Commanders will achieve their objectives by the skilful routing of reserve groups following up and taking advantage of successful penetrations.

9. In areas where both forces are in close contact it may not be possible to subject the foremost enemy troops to a medium or high yield nuclear attack and therefore in spite of nuclear strikes in rear a crust of enemy resistance may remain. When this is so, it may present the most delicate part of the attack. No time can be lost on this phase if full advantage of the main nuclear strike is to be taken. The relationship of the timing between the battle of the crust and the firing of the main nuclear offensive requires very careful study.

10. Where an outflanking movement is not possible and where it is essential to break the enemy's forward positions, this attack must be planned in detail and sufficient reserves allotted to ensure success since the nuclear offensive in depth will be closely linked to it. The breakthrough force must be positioned in rear, dispersed and ready to be launched. No reliance must be placed on the possibility of the crust collapsing because of morale effect of nuclear strikes behind the forward zone. If this should occur, it should be regarded as a bonus and immediate advantage taken of it. It may, on occasion, be necessary to withdraw the forward troops to enable low yield nuclear missiles to be fired on to the enemy forward localities. This will depend on the judgement of the commander as to whether or not he can break the crust with conventional forces. Where withdrawal is inevitable nuclear security will be needed by the troops in the new temporary locations to which they have withdrawn.

11. In order to avoid presenting a nuclear target to the enemy the attack should be conducted by comparatively small armour infantry battle groups, with a substantial proportion of the infantry mounted in armoured personnel carriers. The battle should be thought of in terms of areas and the ultimate objective, rather than in the restricted terms of lines, bounds, intermediate objectives, junction points and strict tempo.

12. All commanders must be trained to work to an overall directive. They must know the intention of their superiors at least two, and possibly three, up. Initiative and independent action must be the predominant thoughts in each commander's mind. His methods must be flexible and must not be irrevocably fixed to a rigid plan.



13. In the breakthrough action the leading troops consisting mostly of armoured units will be required to penetrate deeply and quickly to make good the advantage gained by the use of nuclear missiles. The movement should consist of forward thrusts on as broad a front as possible, fanning out to the periphery of the area subjected to the nuclear strike.

14. It must be remembered that even when nuclear missiles are airburst, there is a degree of neutron induced gamma activity around ground zero. Provided that the area is traversed in vehicles at reasonable speed and the actual epicentres avoided, no unacceptable danger should ensue. On foot, however, there is a considerable risk for several hours and therefore the necessary, properly equipped, monitoring teams must be positioned in the forefront of any advancing force, however small.

15. Reconnaissance troops will be widely and boldly deployed; their role is as important as ever; the principles governing their employment remain the same.

16. The need for resourceful action by strong detachments of engineers will be essential in maintaining the momentum of the advance. They must be especially well trained in rapid methods of route clearance and in overcoming obstacles.

17. In order to confuse the enemy as to the strength and direction of the attack and achieve surprise, it may be that an attack should be timed so that the nuclear strikes take place last light and are followed during the hours of darkness by the main attack. Thus the major part of offensive actions would take place by night and thereby take advantage of the reduced enemy air and target acquisition potential.

18. When the crossing of a defended obstacle is involved, this should be attempted in the first place by small battle groups at a number of points on a wide front, following a nuclear bombardment. Immediate advantage of the ensuing effects must be taken and pauses to form conventional bridgeheads should be avoided. Once suitable crossing places have been reconnoitred nuclear weapons should be employed to pave the way for deep penetrations at selected points. The commander will use his reserves to maintain the momentum so as to unbalance the enemy's defence plans, and in particular to nullify his efforts to launch a nuclear counter offensive. The programming of the follow-up forces and the timing and method of crossing the obstacle will be the most difficult part of the operation, but the outcome of the battle will largely depend on the successful accomplishment of this phase. It is important to prevent the enemy from containing the attacking forces and great efforts must therefore be made to get tanks and infantry in armoured personnel carriers across the obstacle at the earliest possible stage. A force so constituted will possess mobility and some degree of protection against nuclear counter attack should the enemy be successful in firing his missiles.

19. It is essential that the leading troops remain dispersed and that when the time comes for reorganization or refuelling they should be well concealed and dug in.

20. On this battlefield the importance of the more junior commanders at company and squadron level will be increased. It is on their determination, skill, initiative and ability to maintain the offensive spirit of their men, that the successful outcome of the nuclear offensive action will depend.

#### **SECTION 6.—COMMAND AND CONTROL**

1. It will be the corps commander who will control the tactical battle and who will plan initially the nuclear effort.

2. In addition to nuclear artillery the corps commander will have under command a number of brigade groups, armoured, infantry, and on occasions parachute; and divisional headquarters. Having allotted areas of responsibility and tasks to the brigade groups, he will superimpose divisional headquarters to control appropriate groupings. Such grouping may well vary from time to time during operations.

3. Staff duties must be simple and standardized to facilitate the rapid and smooth incorporation of different brigade groups of varying types, armoured, infantry and parachute, as required. Staff work must in due course be aided and speeded up by the use of more machines and better equipment, both office equipment, radio equipment and machinery to collect and disseminate information.

4. The range and power of modern weapons will impose a need for some division of headquarters in order that a nucleus of an alternative headquarters is always in being. The additional strain thus imposed is considerable but must be accepted.

5. The system of command will tend towards directives rather than orders and order groups. Command will inevitably be much looser and a greater responsibility will fall on the more junior leaders to further their commander's aim. It is unlikely that any detailed planning can be carried out in advance beyond the first phase of an operation. Full and detailed operation orders will not be desirable since they will tend to become inaccurate or superfluous too soon.

6. Commanders will inevitably have to retain a most flexible outlook since, as previously stated, nuclear weapons will produce frequent changes in the situation leading to far reaching results in a short space of time. They will tend to operate more from their headquarters where information analysis can be readily available from a variety of sources. When commanders feel that their presence is important at a particular point, they will probably move there by helicopter for a limited visit.

7. It will be harder for commanders at higher level to exert their personalities or to maintain such direct control as hitherto. They may be unavoidably out of touch for certain periods. Liaison officers will be of great value in keeping touch with subordinate commanders and acquiring information over wide battle areas. They also will move by helicopter.



8. Modern war tends to rely increasingly on electronic equipment at all levels on the battlefield. In addition, the employment of smaller groups operating over greatly increased distances emphasizes the overriding importance of all signal communications. If the standard of operating and maintaining the communication equipments is not of the highest, and if these techniques are not linked to proper security, then not only will the enemy be materially helped in his attempts to win the battle, but we shall be greatly restricted in our ability to use our nuclear weapons to full advantage.

9. The nuclear battlefield will inevitably produce a great strain on the communications system, and may indeed totally disrupt it for periods. Helicopters will at times form the sole link between headquarters. At lower levels junior commanders will need to be quite clear as to the overall aim and be prepared to operate within a broad framework without feeling that they are remote, until closer links can again be established.

10. The command of the nuclear artillery will entail the physical deployment and the administration of the nuclear fire units. The CORPORAL will normally be deployed and come under command of Army or Army Group, and will usually be put in direct support of a particular corps for a particular battle. The shorter range weapons, the 280-mm and HONEST JOHN, should be deployed so that along the whole corps front there is available the accurate nuclear fire of the 280-mm combined with the higher yield fire of the HONEST JOHN. Both these types of unit may be under command of corps, under command of a Commander Army Group Royal Artillery or placed under command of a Commander Royal Artillery of a division. The method used will depend on the number of units allotted to the corps and the general plan of battle laid down by the corps commander.

11. When two or more brigade groups are grouped together under a divisional headquarters the Commander Royal Artillery will co-ordinate the fire of the artillery belonging to those brigade groups so that when possible concentrations of more than one regiment can be fired.

12. Nevertheless in any offensive movement it will be the aim, as far as possible, to decentralize control of the weapons to lower formations, so as to take advantage of the rapid change in the battle situation which the weapons can bring about.

13. In defence the control of nuclear fire, that is the sub-allotment of nuclear warheads, and the firing of these weapons will normally remain at present in the hands of the corps commander. Control must be related to the area of effect and the warning which is necessary. The problem of overall control and warning vis-a-vis Air Forces is not finally resolved but at present clearance for nuclear strikes will be co-ordinated by the Joint Command and Operations Centre at Army or Army Group level.

14. The whole command and control system, subjected as it will be to nuclear attack and electronic counter measures, will be under severe stress. If chaos is to be avoided the battle plan must be simple, known to all, and capable of being implemented without continual re-direction. The clarity of intention of the commander and a wide knowledge of the principles on which he is working will be of vital importance.

**SECTION 7.—TRAINING**

1. It is not proposed to deal in detail in this pamphlet with methods of training for nuclear war. However, it is stressed that the type of training necessary within units does not differ materially from present day requirements. Certain aspects will be high-lighted, such as the techniques of digging rapidly and ensuring at least thermal protection. Joint training of armour and infantry battle groups will become more important and these battle groups must be able to carry out offensive action at short notice from widely dispersed lying-up areas. Skill in rapid and secure use of radio will be essential. Proficiency in the quick laying of minefields is likely to become of increased importance. Furthermore the significance of a high degree of skill in operating during the hours of darkness is emphasized.

2. But there are three main spheres in which continual thought and study are needed:—

- (a) The study by commanders and staff of the nuclear scene, leading to the employment of nuclear weapons, their systems and their application to the battlefield; and of the methods of command best suited to fresh tactical concepts with a view to producing sound battle drills and staff procedures.
- (b) The training of unit and sub unit leaders in independent action within an overall directive.
- (c) Further education of technical staff and other officers in the capabilities of nuclear weapons together with an appreciation of some of the problems which lie behind their production.

3. It is at these levels that re-thinking is required rather than at the level of the individual soldier. The qualities required of him today, which are well known, and the methods taken by commanding officers to achieve those qualities, remain effective for the nuclear battle, provided that in addition care is taken to educate every man in the effects of nuclear weapons and to prepare him mentally in advance for the new sights and sounds of the future battlefield.

**SECTION 8.—MORALE AND DISCIPLINE**

1. The standard of leadership at all levels will need to be of the very highest order. Wider dispersion and isolation, lack of information and fear of the unknown will in the future greatly increase the tension on all ranks in battle; and these will be in addition to the awe inspiring effects of enemy nuclear explosions which will occur throughout the battle area.

2. Furthermore, the impact of high nuclear casualties occurring in a moment of time, rather than being built up over a period, must inevitably tend to affect morale.

3. A standard of discipline will be required which is based on understanding, sympathy and common sense, and in tune with modern conditions, but which may well have to be even stricter than it has been in the past.



4. The proper mental training for all men in what may lie before them in the nuclear battlefield will form part of the foundation for the maintenance of confidence at all levels. Psychology both contemporary and previously applied can play a big and helpful part. Indeed morale will depend on a frame of mind induced by a mixture of anger, hope, and confidence, and based upon strict discipline. The aim of previous education in the broad aspects of the nuclear battle will be to remove as much as possible of the element of surprise. In addition to mental training, practical knowledge of the means to minimise the effects of nuclear explosions, practice in automatic drills for self-protection, and training in first aid will all help to maintain a high level of confidence.

5. Morale has always been a prime factor in the conventional battle ; in the nuclear battle it will be the supreme factor.

## **SECTION 9.—CONCLUSION**

1. Although the introduction of nuclear weapons is a step forward longer than that between bow and bullet, yet the principles of war remain unchanged though subject to modern interpretation. The conduct of battles, however, and the tactics now required have altered radically. It is important, therefore, that thought should not rest at the stage which this pamphlet has reached. Evolution of tactical doctrine related to weapon development and scientific potential must be continuous and constructive at all levels.

2. Finally, it cannot be stressed too strongly that it is still the standard of training both mental and physical of the individual man and the quality of his morale which will assist him, under courageous leadership, first to withstand the enemy's nuclear assault and finally to win the battle.